

CHAPTER 2: ENVIRONMENTAL MANAGEMENT SYSTEM (EMS) REVIEW

Chapter 1 of this guide introduces the term “EMS Review.” Chapter 20 of OPNAVINST 5090.1B, Change 2, requires an evaluation of the EMS during external assessment site visits. In support of continuous improvement and environmental excellence and/or preparation for an external assessment site visit, installations may choose to include EMS Reviews in their internal assessments. This chapter defines the term “EMS” and describes the purpose and scope of an EMS Review.

2.1 Definition and Purpose of an EMS Review

Chapter 20 of OPNAVINST 5090.1B, Change 2 defines an EMS to be

that part of the overall management system that includes organizational structure, planning activities, responsibilities, practices, procedures, processes, and resources for developing, implementing, achieving, reviewing, and maintaining the environmental program and achieving environmental goals.

At an installation, an EMS exists whether it is deliberately designed or happenstance, and an EMS may or may not be effective. OPNAVINST 5090.1B requires some basic elements of EMSs that are in place at Navy installations. These elements and their relationships to some standard EMS models are described in Section 2.2.

We conduct EMS Reviews to evaluate the effectiveness of the installation’s EMS and its role in supporting environmental performance. The results of EMS Reviews provide top management personnel with the information required to revise the EMS (if necessary) in support of continuous performance improvement. As the EMS matures and reaches its initial objectives, EMS Reviews should be conducted on a periodic basis.

Under the EQA program, EMS Reviews, conducted both internally and externally, focus either on environmental media-specific program management or on the comprehensive EMS.

EMS Reviews provide feedback to installation management and Major Claimants on:

- Strengths and weaknesses of individual media programs or the EMS as a whole;
- Underlying causal factors (root causes) that may contribute to the occurrence of observed compliance deficiencies;
- The ability of the installation’s compliance programs to be self-correcting;
- Strengths and weaknesses of each of the individual components/elements of an EMS; and
- The effectiveness of the system and identification of opportunities for improvement.

2.2 Scope of an EMS Review

The scope of an EMS Review is based on key characteristics and elements of effective EMS models. Numerous EMS models have emerged since the mid-1980s. A number of components are common to most models. For example, the Code of Environmental Management Principles (CEMP) for Federal Agencies, developed by EPA in response to Executive Order 12856,

U.S. Navy Environmental Quality Assessment Guide

“Federal Compliance with Right-to-Know Laws and Pollution Prevention (P2) Requirements,” is structured around the following components:

- Management Commitment;
- Compliance Assurance and Pollution Prevention;
- Enabling Systems;
- Performance and Accountability; and
- Measurement and Development.

International Organization for Standardization (ISO) Standard 14001 components include:

- Environmental Policy;
- Planning;
- Implementation and Operation;
- Checking and Corrective Action; and
- Management Review and Improvement.

EPA’s *Generic Protocol for Conducting Audits of Federal Facilities* addresses the following “disciplines” derived from key characteristics and elements of effective EMSs:

- Organizational Structure;
- Environmental Commitment;
- Environmental Planning and Risk Management;
- Staff Resources, Training, and Development;
- Formality of Environmental Programs;
- Internal and External Communication; and
- Program Evaluation, Reporting, and Corrective Action.

The President gives the Malcolm Baldrige National Quality Award annually to U.S. companies based on evaluation in seven categories:

- Leadership;
- Strategic Planning;
- Customer and Market Focus;
- Information and Analysis;
- Human Resource Development and Management;
- Process Management; and
- Business Results.

Table 2-1 summarizes basic components and elements that are common to all or some of these models. Appendix C to this guide discusses CEMP, ISO 14001, and Malcolm Baldrige components in greater detail. This guide uses generic language throughout, when referring to

EMS components and elements, to illustrate principles of performance management without promoting a particular EMS model.

OPNAVINST 5090.1B prescribes Navy policies on environmental management. Table 2-2 presents a general outline of policy contained in OPNAVINST 5090.1B and relates it to components of the generic EMS described in Table 2-1, thus demonstrating that organizations at Navy installations should already have many basic EMS components and elements in place.

Table 2-1: Components and Elements of a Generic EMS	
Component	Element
Policy	Develop, document, and communicate policy
Planning	Identify and track requirements
	Identify vulnerable assets and business and management practices which may impact them
	Identify pollution prevention (P2) opportunities
	Identify, document, and rank environmental impacts
	Develop objectives and targets based on environmental impacts
	Establish programs to meet objectives and targets
Implementation	Provide resources (funding, manpower, technical, material)
	Identify training needs and provide training
	Develop and control EMS documentation
	Develop and document standard operating procedures (SOPs) for practices associated with impacts
	Develop and test emergency procedures
Evaluation	Identify, characterize, and document problems (compliance and management system)
	Develop corrective/preventive actions (solutions)
	Secure management approval for solutions
	Implement solutions
	Management review of EMS
Improvement	Continual improvement

In the EMS framework described in Table 2-1, three ongoing processes are fundamental. These include:

- The planning loop (corresponding to the planning component);
- The corrective action loop (within the evaluation component); and
- The continuous improvement loop (encompassing the entire EMS process).

The processes are “loops” in that they should be conducted repeatedly; information available at the conclusion of one iteration should be used as a basis for the next iteration. These loops, their relationships with all EMS components and elements, and a systematic approach to establishing them are covered in Chapter 3 of this guide.

U.S. Navy Environmental Quality Assessment Guide

Table 2-2: Description of the Navy's EMS as Prescribed in OPNAVINST 5090.1B			
EMS Component	EMS Element	OPNAVINST Chapter	Description
Policy	EMS Policy	Chapter 1— Environmental Policy, Organization, and Funding	General description of environmental policy and commitment to compliance and P2.
Planning	Requirements	Throughout	Legal requirements are identified in media chapters.
	Assets, Practices, and Impacts	Throughout	Vulnerable assets, business and management practices, and impacts are defined at Navy-wide level throughout.
	P2 Opportunities	Chapter 3—Pollution Prevention	Policy, program, and procedures are described.
	Objectives and Targets	Not specifically addressed in OPNAVINST	
Implement- ation	Programs	Throughout	Media programs are defined and structure/responsibility provided throughout the OPNAVINST.
	Resources	Chapter 1— Environmental Policy, Organization, and Funding	Section 1-4 presents funding policy and procedures.
	Training	Chapter 24—Environmental and Natural Resources Training	Training requirements and responsibilities are described.
	EMS Documentation	Throughout	Documentation requirements reflect regulatory requirements, and are provided as applicable throughout the media program chapters of the OPNAVINST. As such, they partially conform to documentation provisions under an EMS.
	SOPs	The OPNAVINST provides management SOPs, but does not clearly stipulate SOPs for all business and management practices.	Presumably, SOPs should be developed at the installation level (where practices with the potential to impact the environment are conducted).
	Emergency Procedures	Chapter 4—Procedures for Implementing EPCRA Chapter 10—Oil and Hazardous Substance Contingency Planning	Emergency prevention and mitigation policies and procedures are described in Chapters 4 and 10, and in other media program chapters.
Evaluation	Identify problems	Chapter 20 (Change 2)—EQA Ashore	EQA problem solving/root cause analysis procedures meet the problem identification element.
	Corrective/ Preventive Actions	Chapter 20 (Change 2)—EQA Ashore	EQA corrective/preventive action procedures meet the corrective/preventive action element.
	Management Approval	Chapter 20 (Change 2)—EQA Ashore	EQA procedures for management approval of corrective/preventive actions meet the management approval element.
Improvement	Management Review	Not specifically addressed in OPNAVINST (Change 1).	The Navy's consideration of EMS principles (exemplified in the DoD pilot study, Change 2 of Chapter 20, and this guidance) constitutes a review of the existing EMS.

2.3 EMS Review Techniques

A number of techniques may be appropriate for reviewing the installation's EMS depending on the maturity of the EMS.

When conducting external assessments, the maturity of the installation's environmental program will affect where the evaluators will concentrate their assessment efforts. Environmental programs can mature from reactive through proactive levels. Table 2-3 describes how, as environmental programs mature, the evaluator's primary points-of-contact during the external assessments will shift from shop-level staff to installation management personnel. See Appendix D for additional discussion of EMS maturity.

Table 2-3: Evaluator's Focus Shift as Environmental Programs Mature	
Environmental Program Maturity	Primary Points of Contact during External Assessments
"Reactive"	Media specific managers in the EMD and shop-level staff
"Progressive"	Media specific managers in the EMD, other EMD staff, and EMD management personnel
"Proactive"	EMD management personnel, managers of other functional areas (e.g., Facilities Department, tenants, other host activities), and installation management personnel

A fundamental, results-oriented measure of the effectiveness of an EMS is success in identifying and permanently correcting compliance problems in a timely manner. If the installation has implemented and documented its internal assessment and problem solving activities as recommended in this guide, the Major Claimant's job should be straightforward. A review of the documentation that the installation maintains regarding its problem solving efforts should demonstrate the installation's performance level. In such a review, it is not the number of deficiencies recognized that is important, but that the search for deficiencies is thorough and that problem solving exercises yield permanent corrective and preventive actions.

Additional management system evaluation approaches include:

Checklists—One effective method for reviewing EMS effectiveness is to develop checklists that specify OPNAVINST 5090.1B or other program management requirements. These EMS Review checklists can be incorporated into the ACE software (see Chapter 7). Additional information regarding EMS Review Checklists is included in Section 2.4.

Ad-Hoc Evaluation—An alternative or supplemental approach to evaluating the effectiveness of the EMS is based on the problem solving element of the generic EMS corrective action loop (see Section 3.2). Identification of the contributing and root causes of management and compliance problems may reveal deficiencies in the management system itself and thus suggest potential areas for EMS improvement. For example, a recurring compliance deficiency may be caused by inappropriate training or failure by management to effectively communicate the installation's commitment to compliance. As installation planners develop corrective actions that implement

needed management system elements, the scope and effectiveness of the management framework are increased incrementally.

Review against an EMS Standard—Another approach to evaluating management effectiveness is to evaluate the installation's EMS against an accepted EMS standard, such as EPA's CEMP or ISO 14001. The Navy's preliminary guidance on ISO 14000 and EMS is included in Appendix H. Since most Navy installations have not implemented ISO 14000 (exceptions are installations participating in DoD's ISO 14000 pilot study and CINCUSNAVEUR theater activities that are currently undergoing EMS implementation), only a limited version of an ISO audit will be appropriate in most cases. However, instead of employing CEMP or ISO as the model, Navy installations may wish to consider the generic EMS framework presented in Table 2-1 and Chapter 3 of this guide. Evaluation of environmental management may be accomplished by identifying which of the components and elements of the generic EMS are in place at the installation, and assessing the effectiveness of each. This approach may add value to the environmental management evaluation process where OPNAVINST 5090.1B requirements fall short of the EMS model.

2.4 EMS Review Checklists

One approach to conducting an EMS review is through the use of a checklist. EMS Review checklists may be developed to assist and standardize the review at an installation, but are not a substitute for critical and independent judgment or decision-making. Checklists should only be used as a reference point to affirm that key criteria and evaluation areas have been examined.

The content and focus of the checklist should be developed by installation or Major Claimant personnel, as appropriate, and tailored to the maturity of the EMS in place at the installation. Although checklists are valuable tools to ensure that an assessment has adequately addressed all management issues that need to be examined, they are not static and should reflect the unique and changing considerations of the program or management system under review.

Checklists could be a series of questions to assist in determining whether the installation has successfully implemented management functions needed to achieve environmental objectives. To make this determination, evaluators should ask questions and make observations to determine if policies and procedures have been developed and implemented to:

- Identify and track regulatory, DoD, and DoN requirements;
- Identify and rank practices which can or do impact the environment or other vulnerable assets;
- Identify, prioritize, and document impacts of identified practices;
- Identify and implement P2 opportunities;
- Establish EMS goals and objectives;
- Implement initiatives to meet the EMS's goals and objectives;
- Establish an internal assessment plan that effectively identifies compliance deficiencies and EMS inconsistencies;
- Conduct appropriate "problem solving" that determines the underlying causes of deficiencies identified in both internal and external assessments; and

- Implement corrective actions that prevent reoccurrence of identified deficiencies.

Sources of information for development of an EMS Review checklist include management requirements of the OPNAVINST 5090.1B and installation-level policy documents as well as the EMS models described in this guide. Several references in Appendix B also offer EMS checklists (e.g., EPA's Generic Protocol for Conducting Environmental Audits at Federal Facilities, Volumes I and II).

The Automated Compliance Evaluation (ACE) software tool, described in Chapter 7 of this guide, can be used to incorporate EMS requirements in a checklist. Observations regarding any question can be documented in ACE by recording each observation in the "Comment" or "Deficiency Description" fields. The checklist can also be modified over time to accommodate changing requirements and applicability as the installation's EMS evolves.

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